New Features in Digital Performer 7.24

OVERVIEW

This document provides information about new features in Digital Performer 7 and late-breaking information not covered in the *Digital Performer User Guide*.

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SYSTEM REQUIREMENTS

Minimum requirements

Digital Performer 7.24 requires:

- PowerPC G4 CPU 1 GHz or faster (including PowerPC G5 CPUs and all Intel processor Macs)
- 1 GB RAM or more
- Mac OS X version 10.5 or 10.6; v10.5.8 or later is required
- A display with 1024 x 768 resolution or higher

Computer recommendations

The recommended system for Digital Performer 7.21 is:

- PowerPC G5 or Intel CPU, with multi-core processor or multiple processors
- 2 GB RAM or more
- A display with 1280 x 1024 resolution or higher

The faster the Mac, and the more RAM installed in it, the more responsive Digital Performer is. Scrolling during playback is smoother, the counter updates regularly, and actions that you take with the program are faster — especially during playback.

Pro Tools | HD system requirements

Digital Performer supports DAE version 8.0–8.0.3 with the following Digidesign Pro Tools systems:

- Pro Tools | HD (1, 2 or 3)
- Pro Tools | HD Accel

Pro Tools version 8.0 cs3 or later is strongly recommended.

☛ Support for Pro Tools 8.0.3 requires that Pro Tools is installed before installing Digital Performer 7.1 or later. If Pro Tools 8.0.3 is installed after Digital Performer 7.1 or later, the Digital Performer installer must be run again for DAE to function properly.

☛ Avid has announced the end of support for DAE mode in third-party applications such as Digital Performer and Logic. Digital Performer 7.24 is anticipated to be the final version of Digital Performer to support the use of DAE as the audio engine. For more information, please refer to "Supported Pro Tools systems" on page 2 in the *Digital Performer DAE Guide* (Help menu).

While Avid is bringing third-party DAE support to a close, they have opened third-party support for their Pro Tools|HD Native system. This allows you to run Digital Performer as a complete software front end for the Pro Tools|HD Native system and its audio interfaces. For more information, please refer to"DAE versus MAS" on page 1 in the *Digital Performer DAE Guide*.

USERS OF PREVIOUS VERSIONS OF DIGITAL PERFORMER

If you are familiar with Digital Performer version 5 or earlier, please note that some user interface elements have changed in Digital Performer version 6 and later. For information on these changes, please refer to the "Users of previous versions of Digital Performer" page in DP's online help files (*Help menu > Digital Performer Help*).

ENHANCEMENTS IN VERSION 7.24

Improvements, optimizations, and refinements can be found in the following areas:

- **Mac OS X 10.7 (Lion) support:** Digital Performer 7.24 is compatible with Lion.
- **Other enhancements:** various additional improvements.

ENHANCEMENTS IN VERSION 7.23

Improvements, optimizations, and refinements can be found in the following areas:

- **Transport:** starting and stopping playback when virtual instruments are used.
- **Plug-ins:** impulse reponse management in ProVerb; initial playback in MasterWorks EQ when transport is started.
- **Import & Export:** reading audio files from a CD; opening Performer project files.

ENHANCEMENTS IN VERSION 7.22

Improvements, optimizations, and refinements can be found in the following areas:

- **Analysis:** waveform overview construction.
- **Import & Export:** interchanging AIFF files with Pro Tools; importing bundles during Load operations; saving project files.
- **Plug-ins:** impulse reponse management in ProVerb; state saving and loading in MasterWorks Leveler; Shift-dragging graph points in MasterWorks EQ.
- **Miscellaneous:** managing sidechain output bundles; bringing application into focus when not in front.

ENHANCEMENTS IN VERSION 7.21

Audio pitch automation reference **2**
Other changes **2**

AUDIO PITCH AUTOMATION REFERENCE

There is now a preference to adjust the reference frequency for audio pitch automation in the Data Display preference pane. This preference defines the A above middle C, with a default setting of 440 Hz.

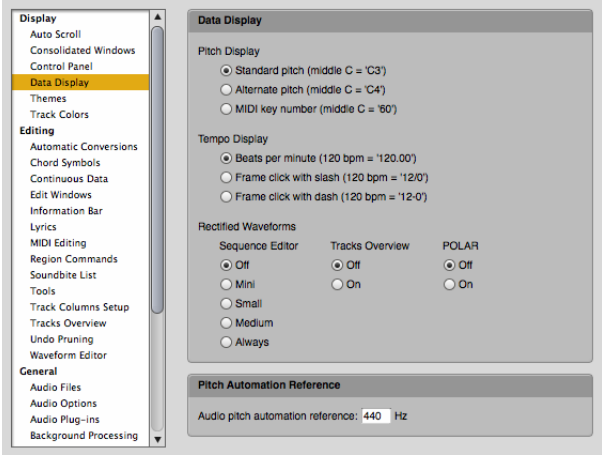

Figure 1: Audio pitch automation reference

OTHER CHANGES

Improvements, optimizations, and refinements can be found in the following areas:

- **Analysis:** waveform overview construction.
- **Import & Export:** importing CAF files; importing Broadcast WAVE files with timestamps; attempting to export MP3 when LAME.framework is not installed.
- **Mixing Board:** drag and drop of effects clippings.
- **Miscellaneous:** consistency of commands and menu items; closing a project with the Preferences window open; reporting of missing soundbites when opening old projects.

NEW FEATURES IN VERSION 7.2

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Other changes 5

CONTEXTUAL MENUS

Contextual menus have been added throughout Digital Performer to provide convenient access to frequently used commands and options.

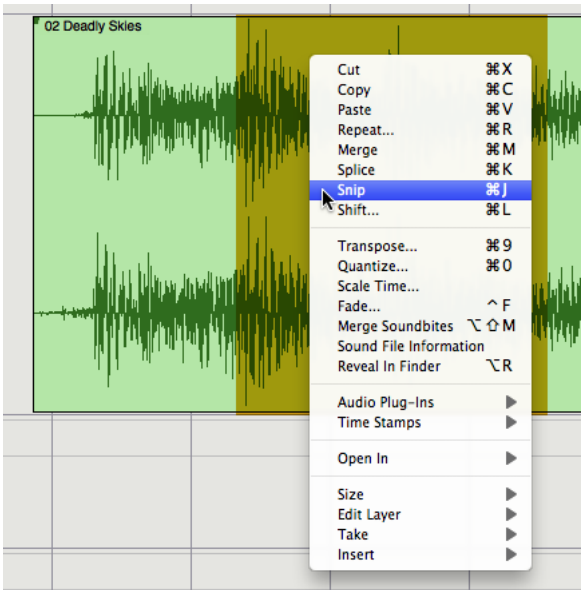

Figure 2: The contextual menu for an audio selection in the Sequence Editor

To access the contextual menu, click with the right mouse button or hold the Control key and click with the left mouse button.

☛ Existing behaviors which utilize clicking while holding the Control key take precedence over the contextual menu. That is, when Control-click is already used in a particular context for a different function, you must use right-click to access the contextual menu.

Contextual menu items

The menu items shown in the contextual menu will depend on the context, as the name implies. For example, if you right-click on a selection of audio data in the Sequence Editor (as shown in Figure 2), you will see contextual menu items for moving and editing audio data, opening the data in other windows, and Sequence Editor track options. Some menu items may be unavailable temporarily (grayed out) depending on the kind of selection you have made, which layer is active, whether there is any data on the clipboard, and so on.

All items that appear in the contextual menus are available elsewhere as regular menu items, mini-menu items, keyboard shortcuts, and so on. That is, the contextual menu is never the only place to find a command or option.

Object selections

When there is object-selected data (such as MIDI notes, soundbites, and so on), right-clicking directly on the selected items will open the contextual menu for those items. However, in cases where it is difficult to click directly on a small object, so you may also right-click in the empty space above or below the selection in the same track.

For example, say you have selected multiple MIDI notes, the first of which starts at 13|1|000 and the last of which ends at 16|3|240 (Figure 3). The contextual menu for those selected notes can be invoked by right-clicking on any of the selected notes, or in any empty space in that track between 13|1|000 and 16|3|240. If you right-click before 13|1|000 or after 16|3|240, or directly on an unselected note, the original selection will be deselected.

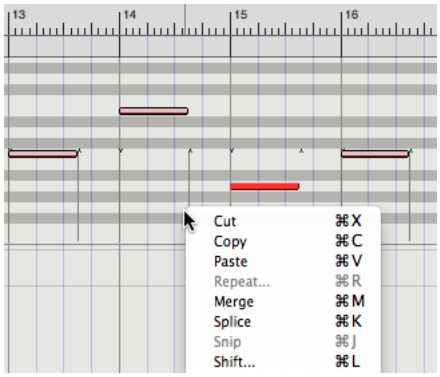

Figure 3: Opening the contextual menu for a selection of MIDI notes

THEMES

Digital Performer's user interface can now be changed with themes. A Themes preference panel has been added to the Preferences window (Digital Performer menu).

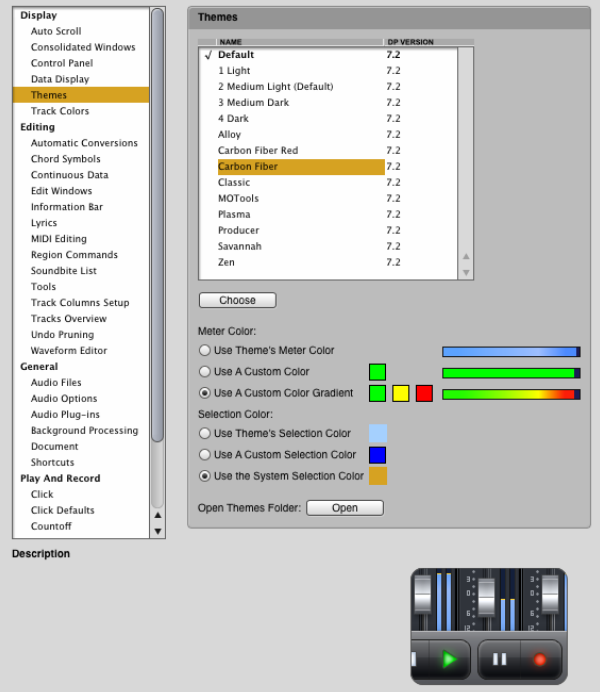

Figure 4: Themes preferences

A variety of themes are included. To change the theme, select a theme in the list and press the *Choose* button.

The *DP Version* column displays the compatible versions of Digital Performer for each theme. If a theme does not support the current version of Digital Performer, the theme will be unavailable (grayed out).

A text description and preview image of the selected theme is displayed in the bottom portion of the Preferences window.

Meter Color

Meter color can be further customized.

Option	Where the color is defined
Use Theme's Meter Color	The theme
Use A Custom Color	The single color picker
Use A Custom Color Gradient	The three color pickers, for the bottom, middle, and peak ranges, respectively

Animated examples are shown for each of the meter color options.

Selection Color

Selection color can also be further customized.

Option	Where the color is defined
Use Theme's Selection Color	The theme
Use A Custom Selection Color	The single color picker
Use the System Selection Color	The *Highlight Color* setting in System Preferences > Appearance

Examples are shown for each of the selection color options.

Managing theme files

Themes are installed in the following location:

/Library/Application Support/MOTU/Digital Performer/Themes/

Press the *Open* button (Figure 4 on page 4) to open a Finder window to the folder on disk which contains your theme files. There, you can rename, copy, delete, etc. your theme files.

OPEN SOUND CONTROL (OSC)

Digital Performer now supports the Open Sound Control (OSC) protocol via a control surface plug-in. OSC is used in a variety of software and hardware devices, such as Max/MSP, Pure Data, CSound, TouchOSC, Monome 40h, and more. For information on the OSC protocol, please see http://opensoundcontrol.org.

OSC plug-in installation

The Open Sound Control plug-in is placed by the Digital Performer installer into the standard location for Digital Performer control surface plug-ins:

/Library/Audio/Plug-ins/MOTU Control Surface/

Configuring an OSC device

To use an OSC device with Digital Performer, choose *Setup menu > Control Surface Setup*. Click the + button to add a control surface, then choose "Open Sound Control" from the Driver menu, as shown in Figure 5.

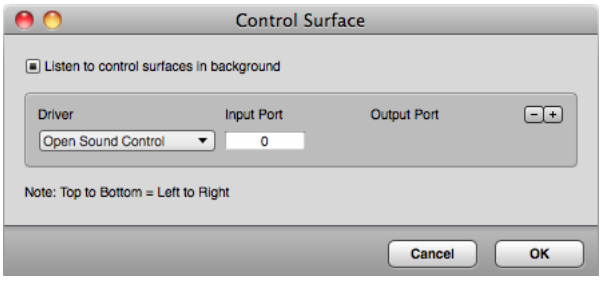

Figure 5: Configuring an OSC device

Input Port defaults to zero, which means that an arbitrary, non-conflicting network port will be assigned internally and published via Bonjour. If you would like to use a specific port, enter the desired port instead of zero. (This may be necessary when the OSC client does not support Bonjour discovery.)

OSC implementation documentation

Digital Performer's implementation of the OSC protocol is described in the *OSC Programming Guide for Digital Performer*, available via Help menu > Control Surfaces Help. This information is needed only if you are creating your own OSC application or hardware device; it is not needed if you are simply using a hardware or software device which supports OSC.

LIVE SEARCH

Live search fields have been added to the Soundbites window and Commands window. As you type a search term, the window will update in realtime to display the relevant results.

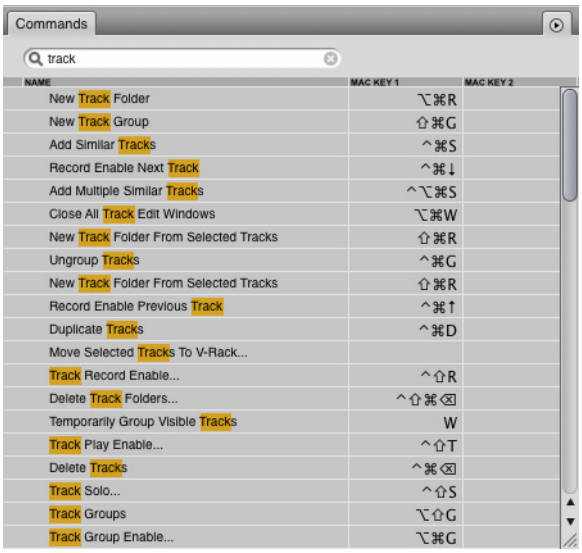

Figure 6: Live search in the Commands window

To clear the search results and return to the regular view, click the "x" button at the right side of the search field, or press the Escape key.

OTHER CHANGES

Improvements, optimizations, and refinements can be found in the following areas:

- **Drum Editor:** saving pitch groups.
- **Mixing Board:** changing pan value via readout; selecting an insert when Show V-Racks is enabled.
- **Export:** bouncing as MP3; exporting Search results.
- **Editing:** boundaries of time-stretched soundbites.
- **Miscellaneous:** window management when using the Consolidated Window; soloing the Graphic Editor when floating windows are present; floating Control Panel; adding new control items to a Custom Console.

ENHANCEMENTS IN VERSION 7.12

Mixing Board scrolling preference 5
Other changes 5

MIXING BOARD SCROLLING PREFERENCE

A new preference has been added to the Mixing Board mini-menu: "Enable Mouse Wheel for Sliders and Knobs". When enabled, the mouse scroll wheel can be used to adjust the volume fader, pan knob, and other sliders and knobs; when disabled, the mouse scroll wheel only scrolls the Mixing Board window.

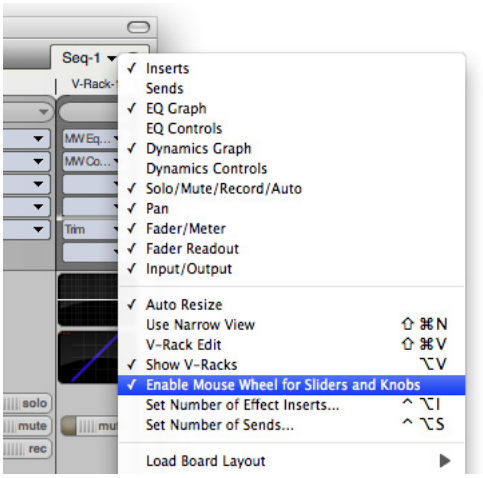

Figure 7: Mixing Board mouse wheel scrolling preference

OTHER CHANGES

Improvements, optimizations, and refinements can be found in the following areas:

- **Analysis:** waveform overview construction.

ENHANCEMENTS IN VERSION 7.11

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CONTROL SURFACE SETUP

When configuring control surfaces in the Control Surface Setup dialog (Setup menu), the Input Port and Output Port of each device can now be specified independently.

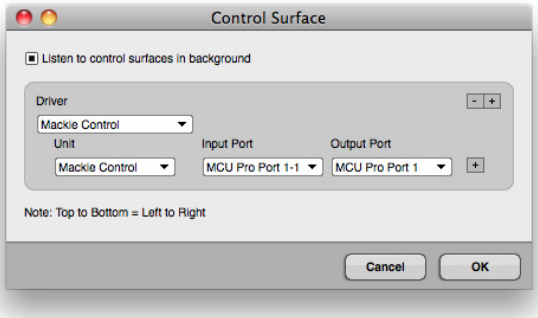

Figure 8: Input and Output Port selection in Control Surface Setup

This provides additional flexibility when making device connections, and provides compatibility with certain kinds of hardware and software control surfaces which specify different ports for input and output.

MIDI DEVICE CONFIGURATION

Menus which display MIDI input or MIDI output connections now display all ports, even if the port does not have a connection to a device in Audio MIDI Setup. This provides quicker configuration of devices which connect directly to the computer and do not require any further configuration in Audio MIDI Setup, such as many USB MIDI controllers.

MIDI ports which do not have a device connected to them will be listed in the "Unconfigured Ports" sub-menu (see example Figure 9, below).

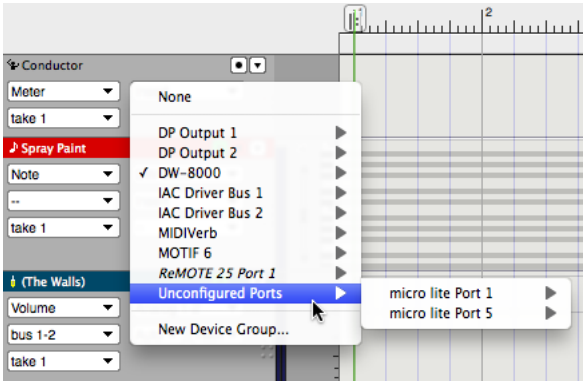

Figure 9: MIDI output selection

OTHER CHANGES

Improvements, optimizations, and refinements can be found in the following areas:

- **Analysis:** waveform overview construction.
- **Editing:** bite volume editing; Chord Symbol and Lyrics operations; sync point editing in Event List; Audio Mute event editing; Poly Aftertouch editing.
- **Effects:** display of automation events for MAS plug-ins; response of MAS instruments to received notes.
- **Mixing Board:** indication of record status.
- **Drum Editor:** saving pitch groups.
- **Import & Export:** saving templates; dragging clippings into the Conductor track; certain Bounce to Disk operations; saving Selection time format; population of Recent Files menu; drag and drop audio file export.
- **Miscellaneous:** checking for updates; operations involving read-only files or volumes; Information Bar configuration; handling of missing fonts; Auto-Scrolling; responsiveness of controls and value fields; playback of ReWire slaves; recall of window sets; instrument sidechain outputs.

NEW FEATURES IN VERSION 7.1

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FOLDER CONTENTS OVERVIEW

Folders now show an overview of their contents in the Tracks Window. When the folder is collapsed, the overview reflects the colors of the individual tracks contained in the folder; when the folder is expanded, the overview is grayscale (see Figure 10 below).

Folder selections

In the Tracks Overview, a time range selection can be made in collapsed or expanded folders, making a selection across all of the tracks in the folder. The selected data can then be copied, pasted, and otherwise edited like any other selection.

In the Tracks List, selecting the folder name selects all of the tracks in the folder.

☛ The *Edit Tracks in Closed Folders* option, previously found in the Tracks Window's mini-menu, has been removed. If you make a selection which includes a closed folder but do not wish to edit a folder's contents, deselect the folder by Command-clicking its name in the Tracks List.

Dragging data into folders

When a selection of data in the Tracks Overview is dragged into a folder, a new track will be created inside the folder for the dragged data.

Track controls on folders

Folders now have track controls, such as Play-enable, Solo Exempt, and Lock, which toggle the corresponding settings on the tracks inside the folder.

AUTOMATIC ADDITION OF INSERTS

In the Mixing Board, another row of empty inserts will be added automatically when the bottommost insert in any track is filled. Inserts will be added one row at a time, until the maximum is reached (20 inserts).

If you load an effects clipping or Insert Settings preset (see below) and there are more inserts in the clipping than are currently displayed in the Mixing Board, additional inserts will be added automatically to accommodate it.

INSERT SETTINGS PRESETS

Chains of inserts can be saved and recalled with the new Insert Settings menu found at the top of the Inserts section in the Mixing Board and Channel Strip. A variety of factory presets are included, and you can edit, save, and recall your own presets.

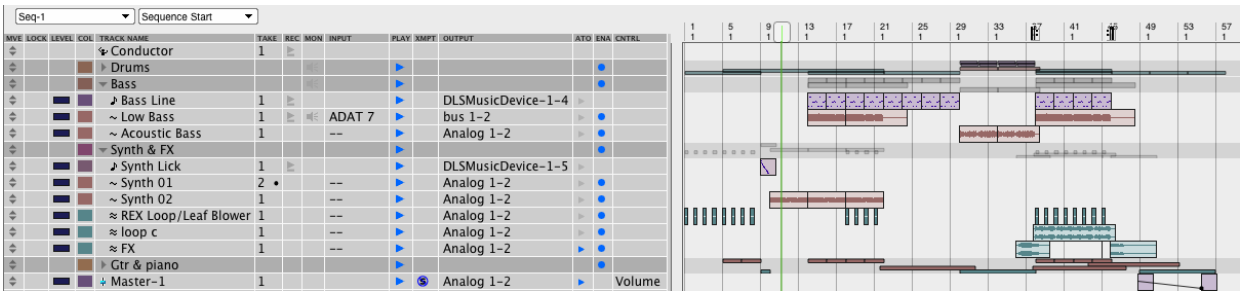

Figure 10: Folder contents overview in the Tracks Overview

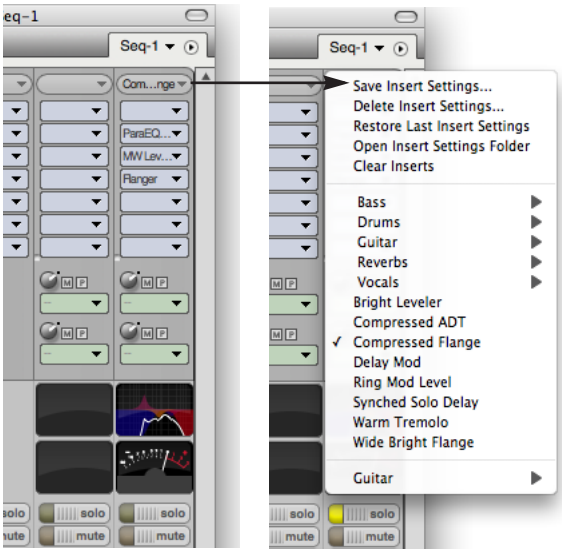

Figure 11: Insert Settings presets menu in the Mixing Board

These presets affect only the inserts; other track settings, such as the fader or pan knob, are not affected.

Insert Settings menu commands

Save Insert Settings: saves a new insert settings file.

Delete Insert Settings: deletes the current insert settings file and clears the inserts. You will be warned that the action cannot be undone.

Restore Last Insert Settings: reloads the preset which was most recently loaded.

Open Insert Settings Folder: opens a Finder window revealing the insert settings files. There, you can rename, copy, delete, and move your files.

Clear Inserts: removes all effects inserts. On instrument tracks, this command removes only the effects inserts; the instrument insert is unaffected.

Common folder

Presets for each track type (MIDI, Audio, Aux, and so on) are saved in separate folders. However, if you would like a preset to appear in the Insert Settings menu for all types of tracks that use audio effects plug-ins (Audio, Aux, Instrument, and Master Fader), save the preset in the Common folder. Common presets appear at the bottom of the Insert Settings menu on audio tracks.

Insert Settings are clippings

Insert Settings preset files are actually clipping files, so they can be used with all of the usual clippings operations. The insert settings files are located in:

/Library/Application Support/MOTU/Digital Performer/Insert Settings Presets

For more information on Clippings, see "Aliased folder as Clipping folder" on page 12 of this document and chapter 59, "Clippings" (page 719) in the *DP User Guide*.

Bypass toggle

Option-click the Insert Settings menu to toggle Bypass of all inserts on that track at once.

Insert Settings presets in insert slots

Insert Settings presets can also be loaded from individual insert slots. In any insert pop-up menu in the Mixing Board and Effects window, Insert Settings presets can be loaded from the Insert Settings submenu. In this case, the Insert Settings preset will be spliced in starting at the chosen slot. Other inserts that are already loaded on that track will not be removed; if necessary, existing inserts will be moved to lower slots to allow room for the new inserts.

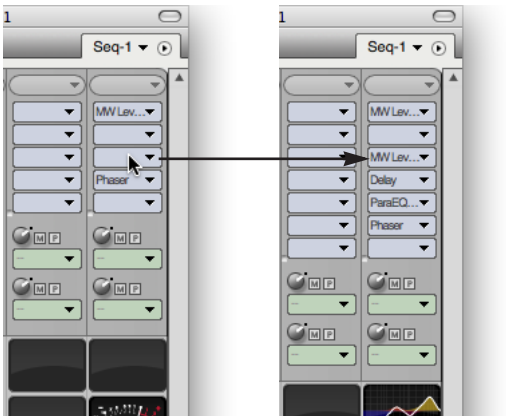

Figure 12: Loading an Insert Settings presets in a insert slot will move existing inserts if necessary

Insert Settings presets when adding instrument tracks

Insert Settings presets are also available when adding an instrument track via *Project menu > Add Track > Instrument Track* or *Project menu > Add Track > Add Instruments*.

EQ AND DYNAMICS BYPASS SHORTCUT

The EQ and Dynamics Graphs can now be Option-clicked to toggle the associated plug-in's Bypass.

OPEN INSTRUMENT SHORTCUT

For instrument tracks and MIDI tracks assigned to virtual instruments, an *Open Instrument* shortcut has been added to open the instrument plug-in window. This shortcut is available in a number of ways:

- keyboard shortcut
- Sequence Editor track menu

- Mixing Board track menu
- Track Inspector/Info Bar button

If a MIDI track is not assigned to a virtual instrument, the *Open Instrument* command will be unavailable.

TRACK TYPE ICONS IN MENUS

Menus which show a mixture of different track types, such as the Effects window's Track menu, now display track type icons next to each track name.

Figure 13: Track type icons in the Effects window's Track menu

OCCUPIED INSERTS IN THE INSERTS MENU

The Inserts menu in the Effects window now displays the names of the plug-ins instantiated in each slot.

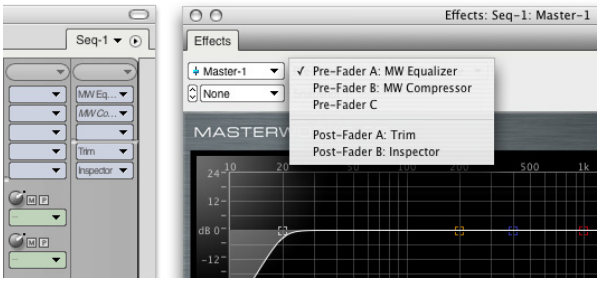

Figure 14: Occupied inserts in the Effects window's Insert menu

FINE CONTROL KEYBOARD MODIFIER

Many controls in Digital Performer, such as volume faders in the Mixing Board, can now be adjusted with finer control by holding the Command key.

TRIM TOOL FOR CONTINUOUS DATA

The Trim tool can now be used on continuous data, such as audio track volume, MIDI CCs, and pitch bend.

Figure 15: Trim tool in the Tool palette

When the Trim tool is chosen and the mouse is directly over continuous data, the Trim tool cursor will change to a hand with a pointed finger. You can click on a data point, or on the line segment between data points, and drag it up or down to trim its value.

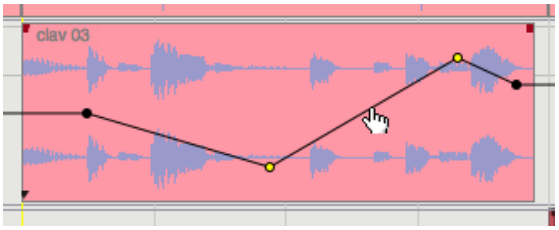

Figure 16: Trimming continuous data

If there is a time range selection or object selection of continuous data, clicking and dragging on one of the selected line segments or data points will move all of the selected data.

Scaling continuous data

A selection of continuous data can also be scaled with the Trim tool. When there is a time range or object selection of continuous data, move the cursor within the selection (but not directly over a point or line segment) then click and drag up or down.

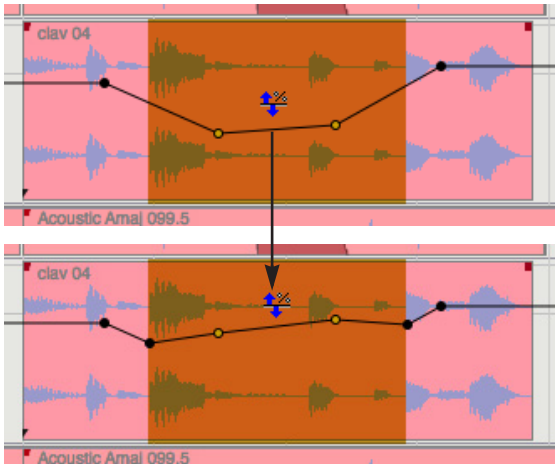

Figure 17: Scaling continuous data

Points are automatically added at the boundaries of the selection to preserve the data before and after the selection.

Flattening continuous data

Holding the Option key while using the Trim tool as described above will flatten the data rather than scale it.

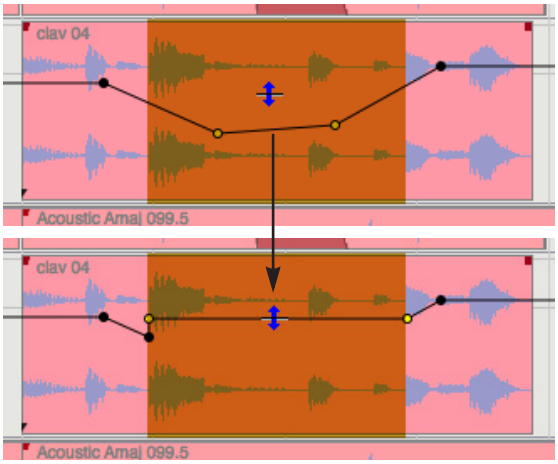

Figure 18: Flattening continuous data

NEW PLUG-IN: TUNER

M-M	M-S	M-n	S-S	S-n	n-n
yes	yes	no	yes	no	no

The Tuner plug-in is an accurate and easy to use tuner.

Detected frequency: fundamental frequency of the incoming signal, in Hertz (Hz).

Detected note: note name and octave that correspond to the detected fundamental frequency.

Meter: representation of the pitch difference between the detected note and the detected fundamental frequency. The horizontal position of the illuminated segments indicates how far the detected frequency is from the detected note. The number of illuminated segments indicates uncertainty or inharmonicity in the signal; a greater number of illuminated segments represents greater uncertainty. The color of the segments changes gradually from green (in tune) to yellow, orange, and red (progressively further out of tune).

Meter value: difference between the detected note and the detected frequency, in cents.

Arrows: the direction in which the detected frequency needs to move to match the frequency of the detected note. The color of the arrows changes progressively in the same manner as the meter segments. When the detected fundamental frequency matches the detected note within three cents, both arrows will be illuminated.

Reference frequency: sets the frequency reference for the pitch A4, between 400 and 480 Hz. The default frequency is 440 Hz. The reference frequency can be adjusted in increments as small as 0.01 Hz when Command-dragging on the bar below the number.

Reference generator: generates a tone at the reference frequency. Click the tuning fork button to toggle the generator. Click and drag on the bar below it to adjust the output level of the generator.

Tuning stereo signals

When tuning a stereo signal, the Tuner plug-in analyzes the sum of the two channels. If the channels are not phase coherent, the Tuner plug-in may not be able to measure the frequency of the signal.

CUSTOM '59: POWER AMP

A Power Amp stage has been added to Custom '59, which contributes to a more realistic amplifier model.

When *Preamp* is selected in the new Power Amp menu, only the pre-amp stage of Custom '59 is activated. When one of the other settings is chosen, both the pre-amp stage and the power amp stage are activated. Additionally, the *Presence* control appears, which controls a progressive high frequency shelf (Figure 19 on page 11).

Figure 19: Custom '59 Power Amp settings

Power Amp models

Each Power Amp model has different characteristics.

Preamp: clean, high-fidelity solid-state power stage (no post-processing of pre-amp model beyond a simple gain control).

Vintage: spongy, touch-sensitive and loose to the point of sounding "flabby" at high distortion levels.

Classic: still touch-sensitive but with a more defined overdrive character.

Modern: tighter, sacrificing some touch-sensitivity for increased definition at maximum drive levels.

MORE PLUG-IN PRESETS

A number of Digital Performer's included plug-ins have additional factory presets.

BUNDLES IMPROVEMENTS

Bundles are bolded when in use

Bundles which are already in use are now bolded in input and output assignment menus.

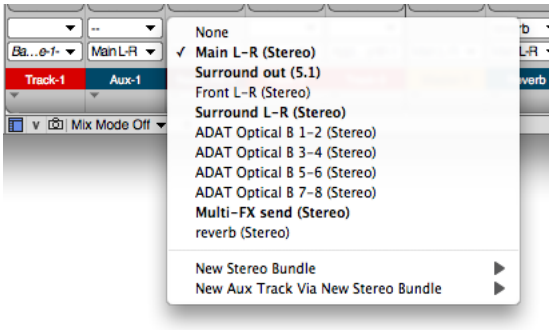

Figure 20: Bundles which are already in use are bolded

Row and column highlighting in Bundles window

The names of the row and column under the mouse cursor are now highlighted, making it easier to determine which row and column you are currently in.

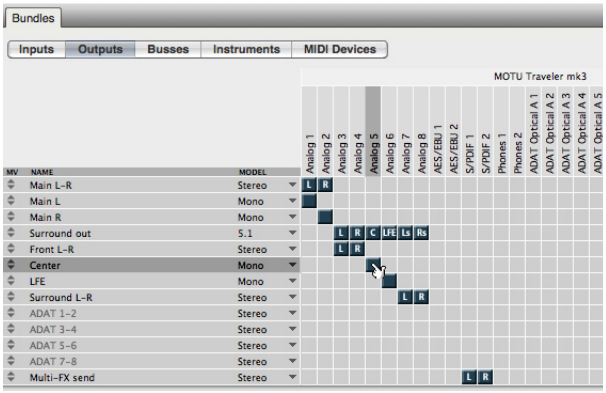

Figure 21: Highlighting in the Bundles window

Clear and Import Bundles command

The Bundles window mini-menu now contains a *Clear and Import Bundles* command. This command is similar to the existing *Import Bundles* command, except that it clears the existing bundles before importing bundles.

INDICATION OF MULTIPLE TAKES

When a track contains multiple takes, a bullet (•) is displayed to the right of the take name.

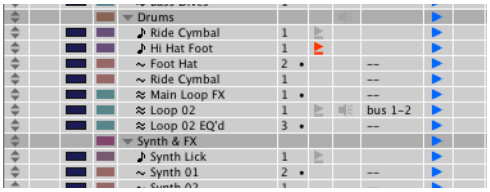

Figure 22: Indication of multiple takes

CORE AUDIO FORMAT (CAF) AUDIO FILE IMPORT

Core Audio Format (CAF) audio files can now be imported. When multi-channel CAF files are imported, they will be converted to stereo.

ALIASED FOLDER AS CLIPPING FOLDER

Folders can now be aliased into any location where clipping folders are located. For example, you could create an alias to your Apple Loops folder (/Library/Audio/Apple Loops) in the global clippings folder (~/Library/Preferences/MOTU Clippings).

This provides a way to treat any location on your hard drive as a clipping window, making its content readily available within Digital Performer without duplicating the folder's contents.

KEYBOARD SHORTCUT IMPROVEMENTS

Quick Filter keyboard shortcut

The Quick Filter command, found in the Graphic Editor, Drum Editor, and Notation Editor mini-menus, can now be assigned a keyboard shortcut.

Nudge Up and Nudge Down keyboard shortcuts

The *Nudge Up* and *Nudge Down* commands can now be used in the edit windows on MIDI notes. The default assignments are Command–Control–Up Arrow and Command–Control–Down Arrow.

Zoom All The Way Out Horizontally

The *Zoom All The Way Out Horizontally* command (Command–Option–Left Arrow) now zooms out to display the entire length of the sequence, rather than zooming out as far as possible.

Reveal In Finder command in Audio menu

The *Reveal in Finder* command, previously available only as a keyboard shortcut, is now also available in the Audio menu.

Searching the Commands list

When the Commands window is opened, the Search field is now focused and ready for text input.

PREFERENCES ADDITIONS AND IMPROVEMENTS

Edit Windows

A new preference, *Show tempo mismatch lines*, has been added to the Edit Windows preferences to toggle the display of red lines which appear when a soundbite doesn't match the sequence tempo.

Consolidated Windows

A new preference, *Maximum rows to add in a sidebar*, has been added to the Consolidated Windows preferences. After the maximum has been reached, when opening a window that will open in the Consolidated Window sidebar, tabs will be added to the existing sidebar cells.

Colors

A button has been added to the Colors preference to provide quick access to the Edit Color Schemes dialog.

Document

The Startup preferences have been renamed as the Document preferences.

Additionally, an *Auto Save* section has been added. Auto Save can be toggled on or off, and the save interval can be specified in minutes from one minute to one hour. You can Auto Save the current file, or Save A Copy As to save as a separate backup file.

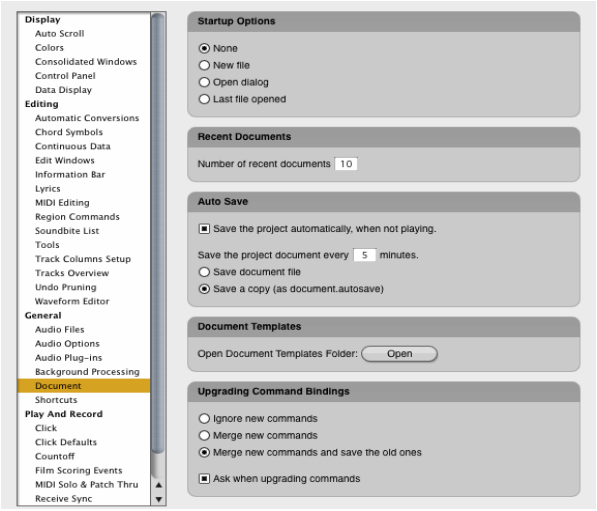

Figure 23: Auto Save preferences

CUSTOMIZING SELECTION INFORMATION

The Selection Information window, and its corresponding Information Bar section, can now display multiple time formats. This is configured in the Selection Information section of the Time Formats window (Setup menu).

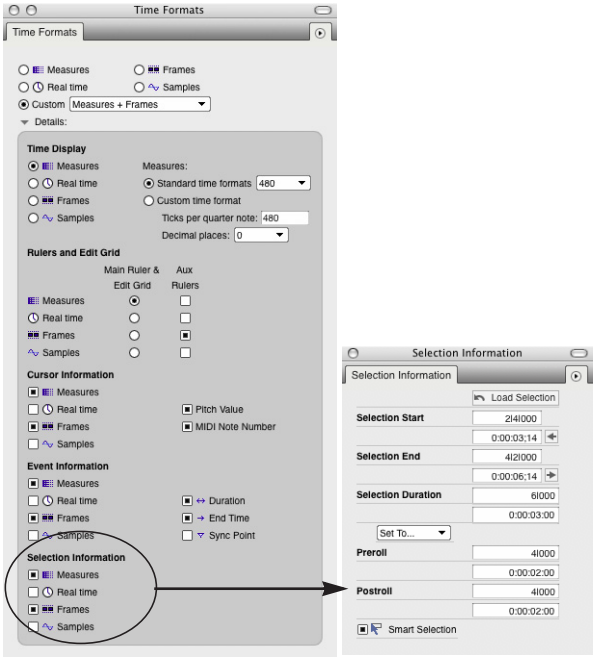

Figure 24: Customizing the Selection Information display

AUTOMATIC UPDATE CHECK

Digital Performer can now check for new versions of Digital Performer automatically. When a new version is available, a dialog will prompt you with options to download or skip the update.

Figure 25: Automatic update check

This automatic check can be disabled by deselecting *Help menu > Check for Updates Automatically.* To check for updates manually, choose *Help menu > Check for Updates Now.*

CUSTOM CONSOLE CREATION FROM WINDOW TARGET MENU

A new Custom Console can now be created via the Window Target menu of any Custom Console window.

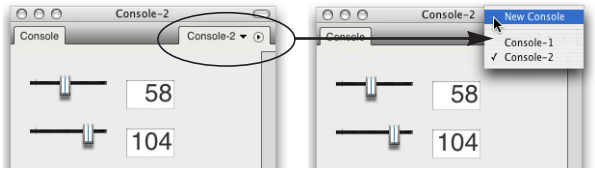

Figure 26: Creating a new Custom Console via the Window Target menu

OTHER CHANGES

Additional improvements, optimizations, and refinements can be found in the following areas:

- **Tracks Window:** gliding over controls in Tracks List; consistency of Sequence menu commands.
- **Drum Editor:** saving drum kits.
- **Sequence Editor:** display of soundbite time when edge editing.
- **QuickScribe Editor:** grouping of mini-menu commands.
- **Import & Export:** REX import; MP3 import; management of Recent Files menu; canceling while opening project; managing file extensions of imported audio files which must be converted; replacing existing files when saving; importing audio files and converting tempo; notifications when CD burning does not finish successfully.
- **Mixing Board:** appearance of sequence and V-Rack tracks with differing numbers of inserts; moving tracks in a V-Rack which is shown alongside a sequence; moving aux and master fader tracks which contain automation to V-Racks; dragging plug-ins between inserts.
- **Playback:** starting from sequence start with ReWire slave.
- **Miscellaneous:** placement of scroll arrows; Help tags; window zooming; reporting of key binding conflicts.

ENHANCEMENTS IN VERSION 7.02

Improvements, optimizations, and refinements can be found in the following areas:

- **Transport:** responsiveness of transport controls.
- **Miscellaneous:** changing audio hardware driver's sample rate.

ENHANCEMENTS IN VERSION 7.01

Countoff: Follow Conductor 14
QuickScribe: Chord Symbols preferences 14
QuickScribe: Other enhancements 14
Shortcuts window keyboard shortcut 14
Other changes 14

COUNTOFF: FOLLOW CONDUCTOR

A new Countoff click option has been added: *Follow Conductor*. This option causes the Countoff click to follow the Conductor track's click mode.

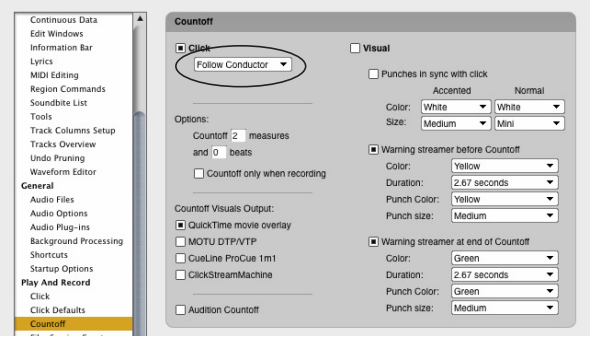

Figure 27: Countoff preferences' Follow Conductor option

Additionally, the *Default* mode from previous versions has been renamed *Default for Meter*.

SHORTCUTS WINDOW KEYBOARD SHORTCUT

The Shortcuts window (Studio menu) has been assigned Option-X as its default keyboard shortcut. This assignment can be changed or removed in the Commands window (Setup menu).

QUICKSCRIBE: CHORD SYMBOLS PREFERENCES

An *Apply To Score* button has been added to the Chord Symbols pane in the Preferences window (Digital Performer menu). This button applies changes made in the Chord Symbol preferences to the current project's QuickScribe score.

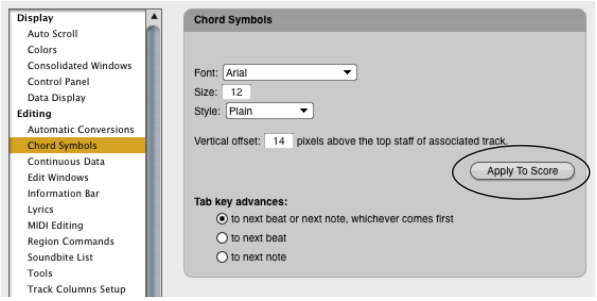

Figure 28: Chord symbol preferences' Apply To Score button

QUICKSCRIBE: OTHER ENHANCEMENTS

Various enhancements have been made to operations in the QuickScribe Editor:

- Lyric placement when changing score options, and when nudging lyrics when they may collide with other lyrics.
- Lyric operations with international text, including Japanese.
- Switching out of pop-edited text boxes or chord symbols.

OTHER CHANGES

Additional improvements, optimizations, and refinements can be found in the following areas:

- **Event List:** display of chord symbols.
- **Automatic Conversions:** converting interleave format; converting other attributes without converting sample rate.
- **File saving:** recalling previously used location for certain save operations.

NEW FEATURES IN VERSION 7.0

EQ & Dynamics in Mixing Board 15
V-Rack Edit button in Mixing Board 17
Show V-Racks in Mixing Board 18
Channel Strip 19
Two line Information Bar 20
Range automation modes 20
New effects plug-ins 21
Audio Unit instrument sidechain inputs 28
Wave64 28
Realtime Fades 29
Improved sample rate conversion 29
QuickScribe: Lyrics 29
QuickScribe: Chord Symbols 32
QuickScribe: Other enhancements 33
Merge Soundbites enhancement 34
Improved phrase parsing in Tracks Overview 34
Marker counter 34
Resizable Counter window 34
Copy & paste counter values 34
Counter Round on Entry 34

EQ & DYNAMICS IN MIXING BOARD

Two new sections, EQ and Dynamics, have been added to the Mixing Board, which provide visual feedback and quick-access control of each track's EQ and dynamics plug-ins.

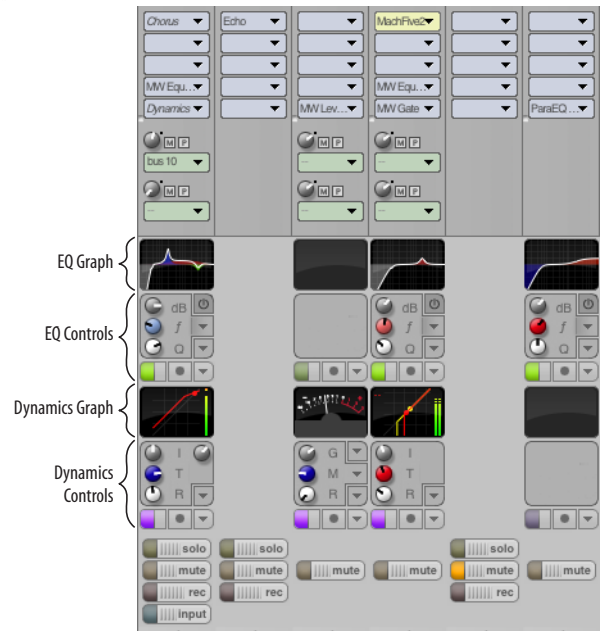

Figure 29: The EQ and Dynamics sections in the Mixing Board

Each section has two components: a group of controls for configuring and editing the plug-in, and a graph displaying a visual representation of the plug-in settings.

The controls which edit the plug-in settings work in the same manner as they do in the regular plug-in window, but there are a few additional controls in the channel strip for managing the EQ and Dynamics sections in the Mixing Board.

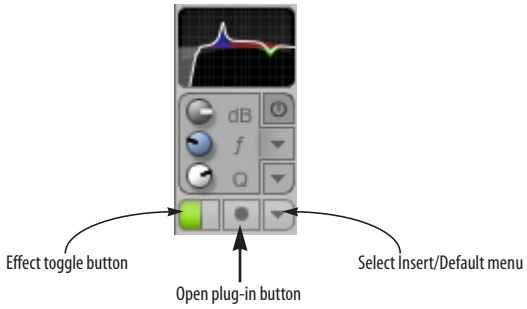

Figure 30: EQ and Dynamics controls

Effect toggle button: When the section is empty, this button instantiates the default EQ or Dynamics plug-in (as chosen in the Select Insert/Default menu, below). When a plug-in is already present, clicking this button toggles the plug-in's bypass.

Open plug-in button: Clicking this button opens the Effects window for the associated EQ or Dynamics plug-in.

Select Insert/Default menu: The top portion of this menu chooses the insert assigned to the section; the bottom portion chooses the default type of EQ or Dynamics plug-in.

Compatible plug-ins

The EQ and Dynamics sections are compatible with all of Digital Performer's included EQ and dynamics plug-ins:

- MasterWorks EQ
- ParaEQ (2-, 4-, or 8-band)
- Dynamics
- MasterWorks Compressor
- MasterWorks Gate
- MasterWorks Leveler
- MasterWorks Limiter

Selecting a plug-in

To select a plug-in for the EQ or Dynamics section when the section is empty, choose the desired plug-in from the bottom portion of the Select Insert/Default menu. You can also instantiate the default (checked) plug-in by pressing the Effect toggle button or by double-clicking the graph.

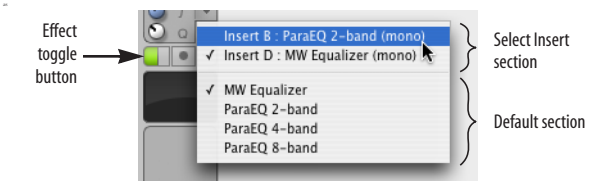

Figure 31: Select Insert/Default menu

Alternatively, you can associate the EQ or Dynamics sections with any compatible EQ or Dynamics plug-ins which are already instantiated. Use the top portion of the Select Insert/Default menu to choose an existing instance.

When opening projects from previous versions of Digital Performer, the EQ and Dynamics sections will automatically display the first compatible EQ and Dynamics plug-ins. If you have multiple EQ or Dynamics plug-ins instantiated on a track, use the top portion of the Select Insert/Default menu to change which plug-in's controls appear in the EQ or Dynamics section, as described above.

EQ Controls

The EQ controls display the settings for the EQ band chosen under the *Band Selection* menu.

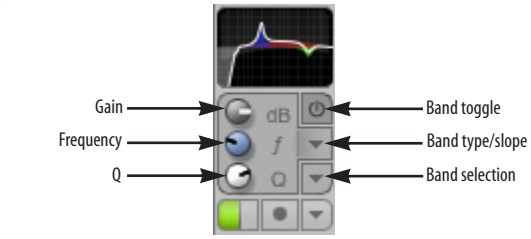

Figure 32: EQ controls

The controls in the EQ section work similarly when using MasterWorks EQ or ParaEQ. For more information on each plug-in, see "MasterWorks EQ" on page 890 and "Parametric EQ" on page 907 in the *Digital Performer Users Guide*.

Dynamics Controls

The controls shown in the Dynamics section vary according to the plug-in you have chosen.

Dynamics

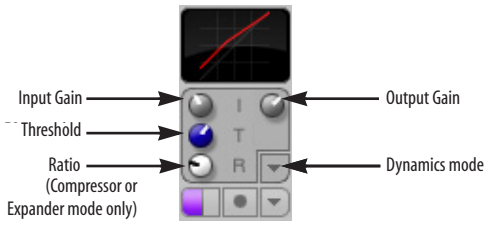

Figure 33: Dynamics controls for Dynamics plug-in

For more information, see "Dynamics" on page 880 in the *Digital Performer Users Guide*.

MasterWorks Compressor

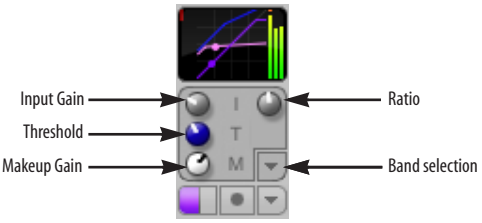

Figure 34: Dynamics controls for MasterWorks compressor

For more information, see "MasterWorks Compressor" on page 887 in the *Digital Performer Users Guide*.

MasterWorks Gate

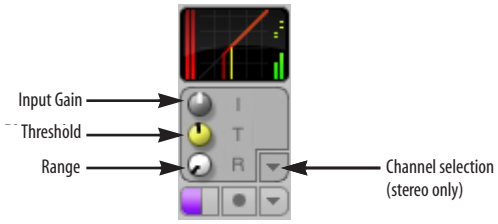

Figure 35: Dynamics controls for MasterWorks Gate

For more information, see "MasterWorks Gate" on page 897 in the *Digital Performer Users Guide*.

MasterWorks Leveler

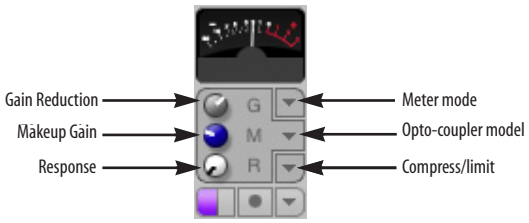

Figure 36: Dynamics controls for MasterWorks Leveler

For more information, see "MasterWorks Leveler" on page 899 in the *Digital Performer Users Guide*.

MasterWorks Limiter

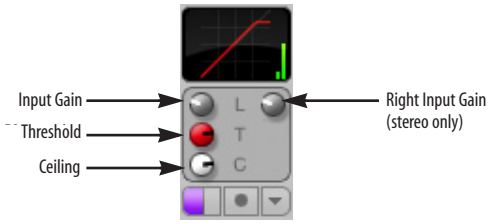

Figure 37: Dynamics controls for MasterWorks Limiter

For more information, see "MasterWorks Limiter" on page 901 in the *Digital Performer Users Guide*.

Graphs

The EQ and Dynamics graphs provide a visual representation of the plug-in's settings. The graphs are customized for each plug-in so the most relevant settings are displayed. Two example graphs are shown below:

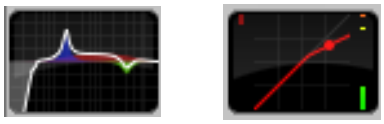

Figure 38: EQ and Dynamics graphs

The graphs are for display purposes only — controls shown in the graphs cannot be edited directly. To edit the plug-in settings, use the EQ or Dynamics controls beneath the graphs, or double-click a graph to open the Effects window.

Pre-rendering

Showing the EQ and Dynamics sections in the Mixing Board causes any associated plug-ins to be processed in real-time, i.e. not pre-rendered.

Hiding the EQ and Dynamics sections

The EQ and Dynamics sections can be shown or hidden by toggling them in the Mixing Board mini-menu. The EQ Controls, EQ Graph, Dynamics Controls, and Dynamics Graph can all be hidden or shown independently.

V-RACK EDIT BUTTON IN MIXING BOARD

The V-Rack (V) button in the lower left corner of the Mixing Board window toggles between the last-viewed sequence and the last-viewed V-Rack. Option-clicking the V-Rack button toggles the "Show V-Racks" option, discussed below.

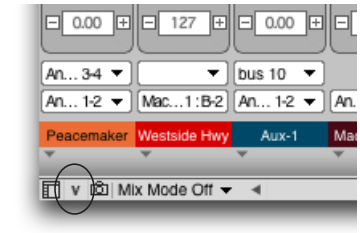

Figure 39: The V-Rack button

SHOW V-RACKS IN MIXING BOARD

V-Racks can now be displayed alongside your sequence tracks in the Mixing Board with the "Show V-Racks" option in the Mixing Board mini-menu.

When enabled, the V-Rack tracks will be displayed to the right of your sequence tracks (Figure 40) and each V-Rack is displayed as a track folder in the Mixing Board's track selector (Figure 41)

To hide individual tracks from the V-Racks, deselect their name in the track selector; to hide entire V-Racks, deselect the V-Rack's folder by clicking on its name, or collapse the folder by clicking its disclosure triangle.

V-Rack tracks are separated from sequence tracks by divider lines before and after the first and last tracks in each V-Rack. One corner is also rounded on the first and last tracks in a sequence or V-Rack to help visually group the related tracks. Additionally, each sequence and V-Rack has a label with its name above their associated tracks.

Figure 41: V-Rack tracks in the Mixing Board track selector

Figure 40: V-Rack tracks alongside sequence tracks in the Mixing Board

CHANNEL STRIP

A new information window has been added to the Studio menu: the Channel Strip. This window shows the Mixing Board channel strip controls for a single track. The Channel Strip behaves like other Information windows, updating to focus on the current track at hand.

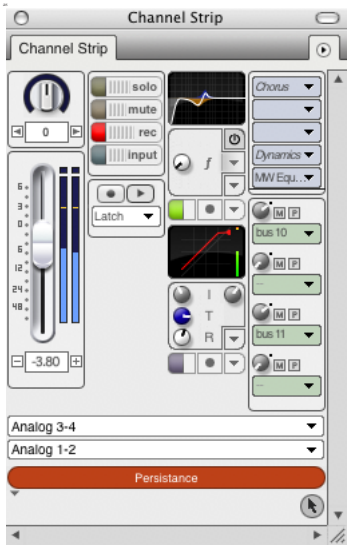

Figure 42: The Channel Strip window

The Channel Strip can be configured (via its mini-menu) to display in one, two, three, or four columns:

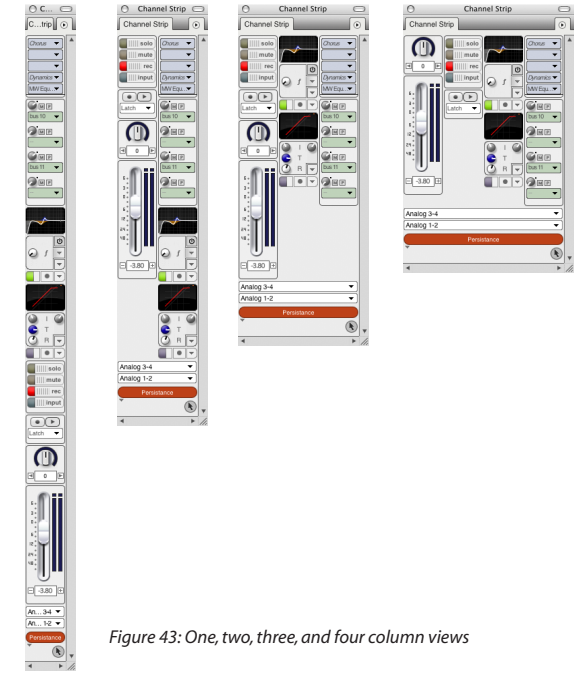

Figure 43: One, two, three, and four column views

When in two, three, or four column view, the fader defaults to the left side of the window. To reverse the order of the columns, deselect the "Fader on left" mini-menu item.

Additionally, similar to the Mixing Board, you can show and hide sections of the Channel Strip via the mini-menu:

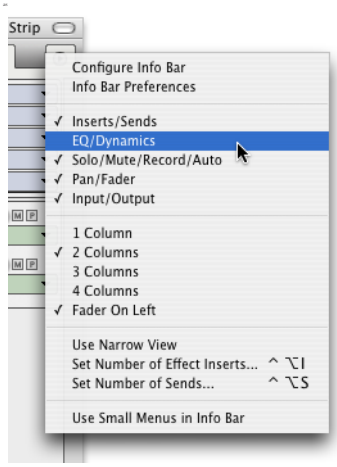

Figure 44: Showing and hiding sections in the Channel Strip window

Locking the Channel Strip window

The Channel Strip window normally updates to follow the selected track, but it can be "locked" to display the track of your choice regardless of the selected track. To lock the Channel Strip window to the track currently showing in the Channel Strip, click the lock button beneath the track name; click the icon again to unlock it.

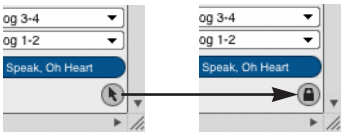

Figure 45: The Channel Strip lock

This only affects the Channel Strip window; if you're displaying the Channel Strip in the Information Bar (see below), it will always follow the selected track.

Displaying the Channel Strip in the Information Bar

As with other Information windows, the Channel Strip may be added to the Info Bar using *Preferences > Information Bar*. This allows you to control a track's fader, pan knob, effect insert, and so on in windows that did not previously have them available, such as the Sequence Editor. You can configure the Channel Strip section differently in each edit window, if desired.

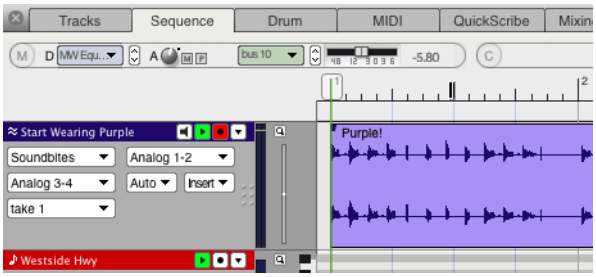

Figure 46: The Channel Strip in the Information Bar

The controls function in the same manner as in the Channel Strip window, with the exception that the Inserts and Sends sections display only one insert or send at a time. To change which insert or send is being displayed, click the up/down arrows in each section. A label is shown to the left of the insert or send to indicate which is shown.

Figure 47: These controls change which insert or send is shown

Small menus

The Channel Strip has a mini-menu option to "Use Small Menus in Info Bar". By default, this item is unchecked and the menus shown in the Channel Strip's Info Bar section are displayed at their full width.

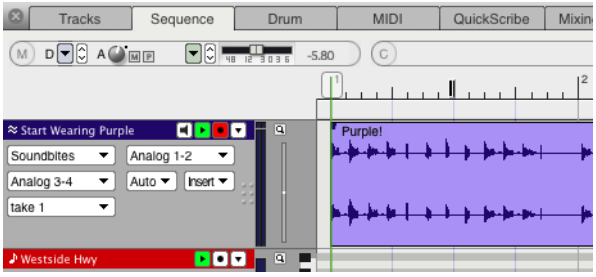

Figure 48: The Channel Strip using small menus

Configuring the Channel Strip

When configuring the Channel Strip for the Info Bar (*Channel Strip mini-menu* > *Configure Info Bar*), not all of the Channel Strip's controls are shown. This is for two reasons:

1 The EQ and Dynamics sections are not available in the Information Bar.

2 The following controls are added to the Information Bar by way of the Track Inspector:

- Solo/Mute/Record/Input
- Automation play/record-enable
- Input/Output
- Track name

☛ For more information, see "Track Inspector" on page 311 in the *Digital Performer User Guide*.

TWO LINE INFORMATION BAR

The "Use two lines…" option in the Information Bar preferences splits the Information Bar elements into two lines when more than three sections are showing to give each section more room to display its contents.

RANGE AUTOMATION MODES

Four new automation modes have been added: *Range Latch, Range Touch*, *Range Trim Latch*, and *Range Trim Touch*.

The new modes behave similarly to the regular Latch, Touch, Trim Latch, and Trim Touch automation modes, but when recording automation using the Range modes, moving controls will change automation data only within a defined time range. The settings for the data on either side of the affected time range will be preserved.

Determining a time range

To specify a time range for the range automation modes, use one of the following methods, which are listed in order of their priority:

1 an object or time range selection in the track

2 a time range selection in another track

3 the Memory-Cycle range

Range Latch and Range Touch

With the Range Latch and Range Touch modes, the value of the automation data within the defined time range will become constant according to the setting of the control. Therefore, these modes are useful for adjusting automation data that is already flat, or for leveling a data curve that you wish to flatten.

Range Trim Latch and Range Trim Touch

With the Range Trim latch and Range Trim Touch modes, the current shape of the automation data curve within the time range (if any) is preserved, and the *entire curve* is moved up or down. Therefore, these two trim modes are ideal when there is already a shape to the automation data within the time range, and you wish to preserve that shape and simply raise it or lower it altogether.

Using the range automation modes

All four range automation modes are useful when mixing groups of tracks, such as background vocals or horn sections, within a specific time range, where you want to jump in and change the mix just for that range without changing it before or after.

These modes provide the following additional benefits:

- The range automation modes allow you to use the same control for modifying the data as you did for entering it. For example, if you automated a plug-in filter sweep using the knob in the plug-in window, you can use that same knob to adjust your original sweep, without having to do by some other means (such as editing the automation data in the track).

- The range automation modes allow you to make changes to automation data without having to switch edit windows to display the automation data. Instead, you can continue viewing the data you are currently viewing, such as soundbites (or automation data of another type).

NEW EFFECTS PLUG-INS

Ten new effects plug-ins have been added, providing faithful emulations of classic effects useful for guitars, basses, and other audio sources alike.

Channel configurations

The following shorthand is used to describe the available channel configurations:

mono to mono	**M-M**
mono to stereo	**M-S**
mono to n-channels	**M-n**
stereo to stereo	**S-S**
stereo to n-channels	**S-n**
n-channels to n-channels	**n-n**

Analog Chorus

M-M	M-S	M-n	S-S	S-n	n-n
yes	yes	no	yes	no	no

Analog Chorus emulates the popular Boss CE™ series of effects pedals from the early ’80s.

Rate: sets the rate of the LFO, in Hertz (Hz), between approximately 0.2 Hz and 3.7 Hz.

Depth: sets the depth of the LFO.

Mix (mono-to-mono and stereo-to-stereo): controls the wet signal level. In stereo-to-stereo mode, the colored “dry” signals are passed directly to the output (L to L and R to R), while the “wet” signals are crossed (L to R and R to L).

Mode (mono-to-stereo): selects the stereo output mode. Mode I outputs the dry signal minus the wet signal in the left channel and the dry signal plus the wet signal in the right channel; mode II outputs the dry signal in the left channel and the wet signal in the right channel.

Status light: displays the bypass state; when lit, the effect is active.

Pedal: bypasses or enables the effect. This works the same as the Effects window’s Bypass button.

Custom ’59

M-M	M-S	M-n	S-S	S-n	n-n
yes	yes	no	yes	no	no

Custom ’59 is an amp modeling plug-in that lets you mix and match preamp tubes and circuits on-the-fly, with complete automation of all parameters.

Modeled amps
Custom ’59 models three renowned guitar amps: the original Fender® Bassman®, the Marshall® JTM45® and the Marshall® JCM800-2203®.

Fender® Bassman®
Originally designed for the Fender Precision Bass®, the Fender Bassman amp was quickly adopted by guitarists and eventually became perhaps the most famous and sought after guitar amp of all time. With its classic 4x10 design (four ten-inch speakers) and classic lacquered tweed cover, the Bassman sound is a bona fide icon among guitar tones and a must-have for any tone aficionado.

Marshall® JTM45®
Introduced in the early 1960’s, the Marshall JTM45 was essentially a clone of the Fender Bassman. Made popular by Eric Clapton, the so-called “Bluesbreaker” amp is named after Clapton’s band at the time, in which he popularized the now signature sound of playing a Les Paul through the heavily distorted JTM45. Ever since, the JTM45 has been ensconced in the pantheon of world-famous guitar amplifiers.

Marshall® JCM800-2203®
By the early ’80s, Marshall had developed the JCM800, with higher power tubes and a power boost from 50 to 100 watts. This amp produces perhaps the most widely recognized guitar tones of all time.

Create your own amp
Custom ’59™ lets you play an extremely accurate reproduction of the sound of each of these three famous amps. But you can also mix and match the preamp tube, preamp circuit and tone stack from each model to create your own custom amp.

Input jacks: selects the input channel and impedance. Channel I and Channel II each have a high-Z input (1) and a low-Z input (2).

Vol I, Vol II: volume controls for each channel.

3-band EQ: cuts or boosts for low, mid, and high frequencies.

Master: output level.

Preamp Tube: selects a tube for the input stage. This determines headroom, first-stage gain, distortion characteristics and to some extent the frequency response of the volume control circuits.

Preamp Circuit: selects the volume control circuit model for the indicated amp.

Tone Stack: selects the tone control circuit model for the indicated amp.

D Plus

M-M	M-S	M-n	S-S	S-n	n-n
yes	yes	no	yes	no	no

D Plus emulates the MXR Distortion+™ pedal; its crunchy sound has been widely used by Randy Rhoads, Jerry Garcia, Bob Mould, and many others.

Output: level of the output signal.

Distortion: amount of distortion.

Source Z: simulates varying the source impedance of the device connected to the input, which affects the high-frequency response of the pedal.

A setting of zero is similar to connecting a well-buffered pedal or a guitar with active pick-ups to D Plus's input. When Source Z is in the range between about 3 and 5, it simulates a guitar with passive pick-ups at full volume. A setting in the range between about 6 and 10 simulates passive pick-ups at a lower value.

Load Z: simulates varying the load impedance of the device connected to the output, which affects the character of the distortion.

A setting of zero simulates the low-impedance input of a typical combo amplifier, whereas a setting of 10 is similar to connecting the pedal output to an amplifier's high impedance input, typically 1 MΩ (megaohm).

Status light: displays the bypass state; when lit, the effect is active.

Enable switch: bypasses or enables the effect. This works the same as the Effects window's Bypass button.

Delta Fuzz

M-M	M-S	M-n	S-S	S-n	n-n
yes	yes	no	yes	no	no

Delta Fuzz emulates the Electro-Harmonix Big Muff π™ pedal, used by many '80s and '90s bands including the Smashing Pumpkins, Dinosaur Jr., and Mudhoney.

Volume: output gain.

Tone: variable high-frequency boost, with shallow midrange notch.

Sustain: amount of distortion.

Status light: displays the bypass state; when lit, the effect is active.

Enable switch: bypasses or enables the effect. This works the same as the Effects window's Bypass button.

Diamond Drive

M-M	M-S	M-n	S-S	S-n	n-n
yes	yes	no	yes	no	no

Diamond Drive emulates the Voodoo Lab Sparkle Drive™ pedal, which is itself an Ibanez TS9™ clone with a dirty/clean crossfader.

Gain: amount of distortion.

Tone: variable high-frequency roll-off, with peak at high settings.

Clean: crossfades between distorted signal and clean signal.

Volume: output gain.

Status light: displays the bypass state; when lit, the effect is active.

Enable switch: bypasses or enables the effect. This works the same as the Effects window's Bypass button.

Intelligent Noise Gate

M-M	M-S	M-n	S-S	S-n	n-n
yes	yes	no	yes	no	no

Intelligent Noise Gate is a noise gate designed specifically for recording instruments that are prone to AC mains interference.

☛ In the stereo-to-stereo variant, the stereo channels are processed independently.

Threshold: trigger level that opens the gate.

Attack: rise time constant of the gate, in microseconds (µs).

Hold: amount of time the gate will stay open once triggered, in milliseconds (ms). Decrease if noise overhanging the note is a problem.

Release: fall time constant of the gate, in milliseconds (ms).

Mains Frequency: tune this to your national power grid.

Noise Type: sets the plug-in to gate the dominant noise source in the input signal. AC interference noise is generally caused by one of two sources: "hum" is generated inside an amplifier that uses AC-heated pre-amp tubes, and "buzz" is caused by unstable voltages produced by poorly-regulated DC power supplies such as "wall wart" transformers for old stomp boxes. In North America, the fundamental frequency of the hum or buzz is approximately 60 Hz and 120 Hz, respectively.

Status light: displays the bypass state; when lit, the effect is active.

Pedal: bypasses or enables the effect. This works the same as the Effects window's Bypass button.

Live Room G

M-M	M-S	M-n	S-S	S-n	n-n
yes	yes	no	yes	no	no

Live Room G models a loudspeaker cabinet in a physical space.

Live Room G requires a library file containing data about these physical models. This file is placed by the Digital Performer installer here:

/Library/Application Support/MOTU/LiveRoomG/LiveRoomG Data.bundle

Controls

Cabinet Drive: amount of distortion provided by the cabinet.

Output Gain: output level.

Cab: selects the cabinet model. See "Cabinet models" on page 26.

Damping: controls the high-frequency roll-off of the room, similar to hanging curtains or setting up gobos.

Display area: graphical representation of the cabinet selection, mic types, and mic positions. This is for display purposes only; the graphic cannot be edited directly.

Microphone mixer

There are four microphone channels, two mono (channels 1 and 2) and one stereo (channels 3 and 4), each with its own set of the following controls:

Mic: selects the microphone type and position. Channels 1 and 2 can be set to one of five options: On Axis, Off Axis, Near, Rear, or Far Omni. Channels 3 and 4 can be set to one of four options: XY, ORTF, Blumlein, or Wide Omni.

Pre-delay: advances or delays the signal to compensate for the time it takes for a signal to reach a microphone.

3-band EQ: cuts or boosts up to 15 dB for low, mid, and high frequencies.

Pan (channels 1 and 2, stereo only): controls the placement of the mono source in the stereo output signal.

Blend (channels 3 and 4, mono only): controls the width of the stereo signal.

Width (channels 3 and 4, stereo only): controls the width of the stereo signal.

Solo and Mute: soloes or mutes the channel.

Fader: output gain.

Side chain outputs

Live Room G provides a side chain output for each of its four channels. The side chain output signals are split before Live Room G's EQ, solo/mute, pan, fader, and output gain controls. This enables you to take advantage of Digital Performer's full mixing environment for each microphone channel, including plug-ins and automation.

These side chain outputs are configured in the same manner as multiple outputs from a virtual instrument — see "Multiple audio outputs" on page 279 in the *Digital Performer User Guide*.

Cabinet models
The following cabinet models are provided:

- **4x12 Modern:** Intended for ultra-distorted chunks and sludge, yet versatile enough to handle smooth Santana-style leads.
- **4x12 Vintage:** Based upon an aging, road-worn British monster held together with gaffer's tape and AquaNet. Perfect for those '80s hair-band tributes and '70s proto-metal.
- **2x12 Combo:** For Muscle Shoals-style southern-rock and country guitar tones.
- **4x10 Combo:** Tuned for blues, jazz, rock and country. Based on a classic, man …
- **1x8 Junior:** This one was set up to record distorted rhythm guitar tones for rock and pop. If you like Eddie Money then this is your cabinet.

RXT

M-M	M-S	M-n	S-S	S-n	n-n
yes	yes	no	yes	no	no

RXT is an emulation of ProCo's The Rat™ distortion pedal, which has been used by many bands like Nirvana, Sonic Youth, and Radiohead.

Distortion: amount of distortion.

Filter: variable lowpass filter.

☛ This knob operates in reverse when compared to the other pedal plug-ins.

Volume: output gain.

Status light: displays the bypass state; when lit, the effect is active.

Enable switch: bypasses or enables the effect. This works the same as the Effects window's Bypass button.

Tube Wailer

M-M	M-S	M-n	S-S	S-n	n-n
yes	yes	no	yes	no	no

Tube Wailer is an emulation of the venerated Ibanez TS-9 Tube Screamer™ overdrive pedal.

Drive: amount of distortion.

Tone: variable high-frequency roll-off, with upper midrange peak at high settings.

Level: output gain.

Diodes: simulates replacing the stock silicon clipper diodes with germanium diodes. This reduces distortion level but extends bandwidth.

Status light: displays the bypass state; when lit, the effect is active.

Pedal: bypasses or enables the effect. This works the same as the Effects window's Bypass button.

Über Tube

M-M	M-S	M-n	S-S	S-n	n-n
yes	yes	no	yes	no	no

Über Tube is an emulation of the Ibanez Super Tube™ overdrive pedal, a close but rare cousin of the Ibanez Tube Screamer™.

Drive: amount of distortion.

Bite: variable frequency mid-boost, like a "parked wah" mixed with the signal.

Level: output gain.

Bright: variable high-frequency roll-off, with upper midrange peak at high settings.

Diodes: simulates replacing the stock silicon clipper diodes with germanium diodes. This reduces distortion level but extends bandwidth.

Status light: displays the bypass state; when lit, the effect is active.

Pedal: bypasses or enables the effect. This works the same as the Effects window's Bypass button.

Wah Pedal

M-M	M-S	M-n	S-S	S-n	n-n
yes	yes	no	yes	no	no

The Wah Pedal plug-in simulates "wah-wah" pedals used by guitarists, bassists and keyboard players.

Pedal Position: the position of the rocker pedal in percent of forward sweep. This can be adjusted with the Pedal Position knob, or by clicking the rocker pedal and dragging up or down.

Sweep Start: the starting position of the pedal relative to the full range of the pedal's sweep.

Sweep Range: specifies the sweep range as a percent of the distance from the sweep starting position to the end position.

Sweep Exponent: defines the curvature of the sweep response over the sweep range. This greatly affects the "feel" of the pedal. Most wah pedals use a negative exponent.

Character: controls the relative amount of distortion, with zero being perfectly linear. Classic wah-wah pedals are discrete designs that use feedback, but the simplicity of the circuit allows some weak low-order harmonic distortion to find its way to the output.

Voicing: selects the frequency response model. "V846" represents a vintage '70s Vox 846™, "WhineBaby" a modern Dunlop CryBaby™.

Sweep Mode (stereo only): chooses which channels are in phase with the effect: left, right or both. For the out-of-phase channel, the pedal position is inverted after applying the sweep range modifications but before the sweep curvature is applied to simulate playing an identical pedal that is "turned around."

Sweep Control: selects whether automation ramp data or MIDI continuous controller (CC) messages should be used to automate the pedal position and effect bypass.

When MIDI is chosen, any ramp data in the track is overridden, and the pedal position knob and pedal graphic do not affect the pedal position value.

Pedal CC: selects the MIDI continuous controller (CC) number assigned to the pedal.

Bypass CC: selects the MIDI continuous controller (CC) number assigned the bypass switch. Values 63 and higher will bypass the effect.

AUDIO UNIT INSTRUMENT SIDECHAIN INPUTS

Sidechain inputs are now supported on Audio Unit (AU) virtual instrument plug-ins as well as MAS instrument plug-ins.

WAVE64

The Wave64 extension to the Broadcast WAVE file format allows for audio files larger than 4 GB. If you anticipate creating audio files larger than 4 GB, choose the Broadcast WAVE file format.

☛ How quickly you create a 4 GB file depends on the channelization, sample rate, and sample format. When recording as an interleaved stereo 16 bit 44.1 kHz file, it takes about 6.7 hours to create a 4 GB file, but only about 7 minutes when recording as an interleaved 10.2 surround 32 bit floating point 192 kHz file.

When using Broadcast WAVE, if a file will be smaller than 4 GB at the end of an audio recording pass, the resulting file will be a regular Broadcast WAVE file. If the resulting file will be larger than 4 GB, it will use the industry standard Wave64 extension to the Broadcast WAVE file format.

REALTIME FADES

In previous versions of Digital Performer, audio fades and crossfades were created as audio files and placed in the project's Fades folder. In Digital Performer 7.0 and later, fades and crossfades are calculated in realtime and do not generate any additional files on disk. Fades are applied non-destructively, just as with volume automation or realtime effect inserts.

Projects from Digital Performer version 6.02 and earlier may have a Fades Folder. If the project is opened in DP 7.0 or later, the fades will be calculated in realtime and the unused fade files will be deleted. When exporting a project for any version of Digital Performer prior to version 7.0, a Fades folder will be created automatically if needed.

IMPROVED SAMPLE RATE CONVERSION

Digital Performer now uses a new sample rate conversion algorithm which provides increased precision, efficiency, and transparency, with a 138 dB signal-to-noise ratio.

The *Quality* options found in the Audio File Conversion dialog (Figure 49) in previous versions of Digital Performer are no longer needed — the same efficient, high quality conversion is always used.

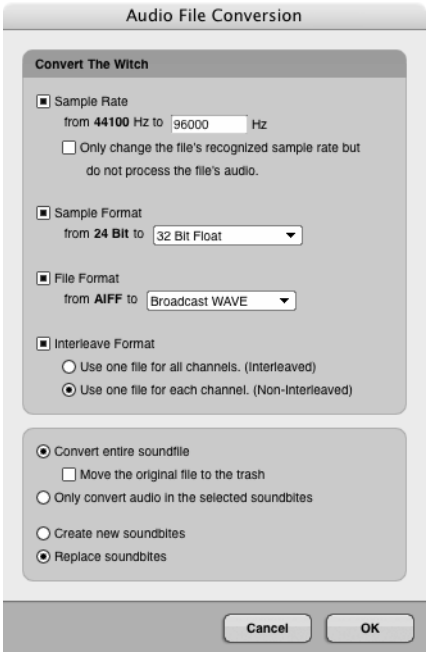

Figure 49: The Audio File Conversion dialog

QUICKSCRIBE: LYRICS

Lyrics can now be added to your score in the QuickScribe Editor.
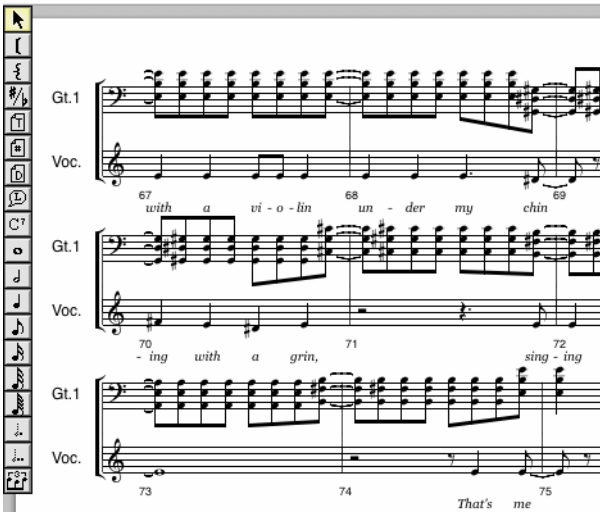
Figure 50: Lyrics in the QuickScribe Editor

Entering lyrics for a single track

To enter lyrics for a single track, choose the Lyric Text tool in the QuickScribe tool palette ( ) then click on or below the desired note. Alternatively, assign a keyboard shortcut to the *Enter Lyric* command (Setup menu> Commands) and press the keyboard shortcut to enter a lyric below the selected note (or, if there is no selection, below the note nearest to the playback wiper).

An empty lyric text box will appear, ready for you to type in:
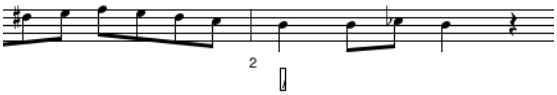
Figure 51: An empty lyric text box

Type a single word or syllable in the empty box. To advance the edit box to the next note, press the spacebar to start a new word, a dash (-) to enter another syllable in the current word, or an underscore (_) to extend the current word or syllable to the next note. (Note, however, that you don't have to add underscores for a syllable that extends across tied notes — underscores are added automatically beneath tied notes when you hit the space bar to go to the next non-tied note.)

To dismiss the lyric text box, press Enter or Return to confirm, or Escape to cancel.

Entering lyrics shared by multiple tracks

Lyrics can be associated with two or more tracks. For example, in a SATB choral score (Soprano, Alto, Tenor and Bass), you might have lyrics that are shared among the Tenor and Bass parts (tracks) for a portion of the score, or perhaps shared by all four parts. You can freely choose which parts the lyrics are associated with, at any time. For example, the four SATB parts might have individual lyrics for some sections of the score and shared lyrics for other sections of the score. You have complete control over which parts (tracks) the lyrics are associated with.

If you wish to associate lyrics for multiple tracks when first entering the text, simply select a note in each track at the location where you want the shared lyric text to begin, and then either click with the Lyric Text tool or press the Enter Lyric command keyboard shortcut, as usual. An empty lyric text box will appear, but its vertical position below (or between) the shared staves will be governed by the Lyrics Preferences. See "Lyrics placement" on page 32.

Working with shared lyrics

Lyric text that is shared among several staves, will appear with each staff that it is linked with, whether the staff is displayed by itself or together with shared tracks.

If you have existing lyric text on the page, and you would like to see which tracks it is linked with, click the lyric text box with the Arrow cursor to select it and choose *Text menu> Display> On These Parts Only*. Tracks with check marks next to their names are linked to the lyric. Choose any track from this sub-menu to toggle its checked/unchecked status. Doing so will link/unlink the track to the lyric text, respectively.

You can freely assign and unassign lyric text to any track or tracks using the *On These Parts Only* sub-menu as explained above.

Editing lyric text

To edit existing lyric text, double-click the lyric. While the lyric text box is pop-edited, you can press Tab or Shift-Tab to advance to the next/previous lyric. Tabbing will go to the next or previous lyric that is linked with that same track or tracks. Be sure to keep this in mind when you are working on a section of a score that has lyrics linked to different tracks, as tabbing may not necessarily jump to the very next, adjacent lyric text box if it is not linked to the same track(s) as the current text box.

The Lyrics window

The Lyrics window (Project menu*)* allows you to enter and edit lyrics into your score via a conventional text editor environment. The Lyrics window is particularly useful when you already have lyric text from another source (such as a word processor or email) and would like to add them to your score all at once using the Auto Flow command.

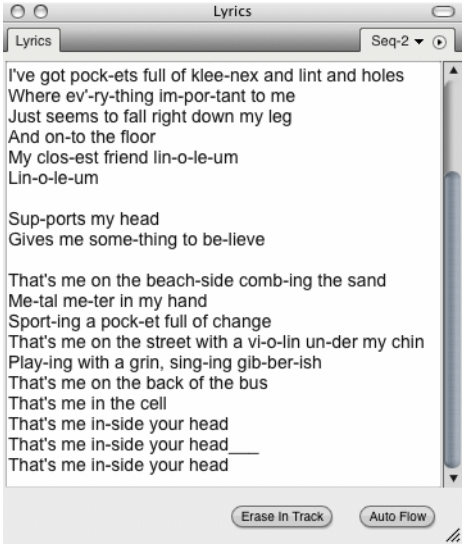

Figure 52: The Lyrics window

Auto Flowing lyrics

Follow these steps to Auto Flow lyrics into your score:

1 Open the Lyrics window and type or paste text.

2 Format the text so that it will flow properly onto the QuickScribe page, using spaces, dashes, and underscores as described in "Entering lyrics for a single track", above.

3 Select the portion of the text in the Lyrics window that you want to flow onto the QuickScribe page.

If you place the insert cursor anywhere in the Lyrics window, only the text after the insert cursor will be flowed. If you make a selection in the Lyrics window, only the selected text will be flowed. If you wish to flow all of the text in the Lyrics window, either place the insert cursor at the very top of the window, or select all the text in the window.

4 Select the track(s) that you want to associate with the flowed lyrics.

If you don't make a track selection, then the lyrics will flow into the first visible track in the score, beginning at the first note at or after the playback wiper location. If you select a note in a track, the lyric will flow over the notes in that track only, beginning at the selected note. If you select notes in multiple tracks, the lyric will be "shared" by all of those tracks, and will flow over the combined notes in all of the selected tracks. See "Lyrics preferences" below for settings that control how lyrics are displayed for multiple tracks.

5 Click on the Auto Flow button to flow the selected lyric text into the selected tracks.

Reflowing text after making edits

The Lyrics window is not dynamically linked to the text in the QuickScribe score. Therefore, if you make changes in the Lyrics window, you will need to reflow the text afterwards to update the QuickScribe score. Remember, you can reflow just a portion of the lyrics by selecting just the edited text in the Lyrics window and then selecting the note in the score where you want it to reflow.

Erasing lyrics

To erase lyrics, use the Arrow tool to select the desired lyrics in the QuickScribe window and press the Delete key or choose *Erase* from the Edit menu.

To quickly erase a large section of lyrics, select a note in the part(s) whose lyrics you want to erase and press the *Erase in Track* button in the Lyrics window. This will erase all lyrics in the selected part(s) after the selected note.

Copying and pasting lyrics

Lyrics are not MIDI events; rather, they are a special kind of QuickScribe page text. Therefore, they will not copy along with notes if you cut and paste sections of the notes themselves. You can, however, easily recapture the lyrics from the copied section to the Lyrics window and then re-flow them into the QuickScribe score at the pasted location; see "Recapturing lyrics from the score into the Lyrics window", below.

Hiding lyrics

To temporarily hide lyrics, deselect "Show Lyrics" in the QuickScribe mini-menu.

Lyrics in an arranged score

You can enter lyrics into a linear score and then arrange it. Once arranged, lyrics for verses will automatically stack on top of each other in verse sections. You can also arrange the score first, and then Auto Flow into the arranged score. In that case, the Auto Flow algorithm still flows the lyrics into each linear measure in turn, stacking the lyrics as needed in each pass through the repeated sections.

Converting regular page text into lyrics

If you have projects containing regular page text that you would like to convert to lyric text, the *Capture Non-Lyric Text* command (Lyrics window mini-menu) pulls the text from page text objects in the score (excluding date/time and page numbers) and puts the resulting text into the Lyrics window.

The text from each text object will appear on a line by itself in the Lyrics window, and all instances of two or more spaces will be reduced to a single space.

Once all of the page text is in the Lyrics window, you can edit it to add syllable breaks and extensions. Delete the old page text from the score and use the Auto Flow process to flow all of the text back onto the score as lyric text.

Recapturing lyrics from the score into the Lyrics window

The Lyrics window is not dynamically linked to the text in the QuickScribe score. Therefore, if you add new lyrics directly to the QuickScribe score or make edits directly on the score, these changes will not be automatically reflected in the Lyrics window. To update the Lyrics window text, you must recapture the lyrics from the score.

If you would like to send lyric text from the score to the Lyrics window, choose *Capture Lyric Text* from the Lyrics window mini-menu. This captures the lyric text for the tracks shown in the QuickScribe score; if there is a selection, only the lyrics in that time range will be captured.

To capture all text from the score (excluding date/time and page numbers), use the *Capture All Text* command.

Lyrics preferences

The Preferences window (Digital Performer menu) has a Lyrics pane to specify the default text style, placement, and syllable extension behavior of lyrics.

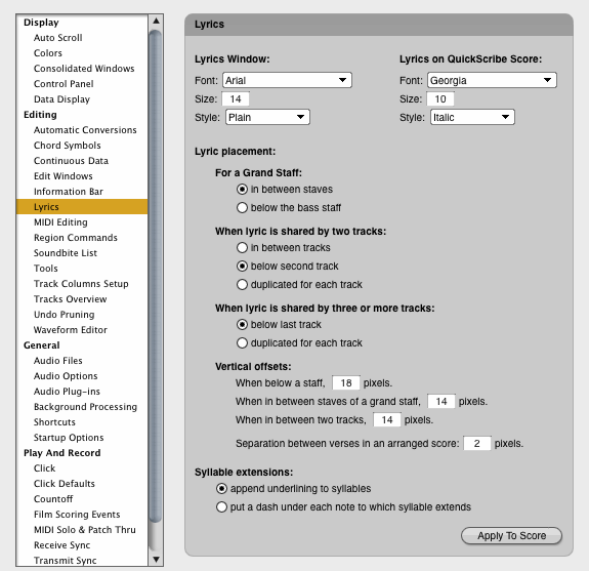

Figure 53: Lyrics preferences

Lyric text style

Options are provided to specify the font, size, and style of lyric text in the Lyrics window and on the QuickScribe page.

Lyrics placement
Various options specify the placement of lyric text on the QuickScribe page.

☛ When specifying a vertical offset between two staves or tracks, the offset is the distance beneath the top staff or track.

Syllable extensions
By default, syllables are extended by underlining, but you can alternatively put a dash under each note.

Apply To Score
The *Apply To Score* button applies changes made in the Lyrics preferences to the current project's QuickScribe score.

QUICKSCRIBE: CHORD SYMBOLS

Chord symbols can now be added to your score in the QuickScribe Editor. Chord symbols are MIDI track events, and can be transposed along with MIDI notes.

Entering chord symbols

To enter a chord symbol, choose the Chord Symbol tool in the QuickScribe tool palette (C7) and click on or above the desired note. Alternatively, assign a keyboard shortcut to the *Enter Chord Symbol* command (Setup menu> Commands) and press the keyboard shortcut to enter a chord symbol above the selected note (or if there is no selection, above the playback wiper).

An empty chord symbol edit box will appear, ready for you to type in the symbol:
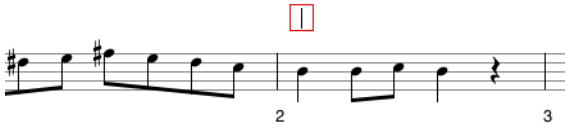
Figure 54: An empty chord symbol edit box

Type the desired chord symbol in the empty box. The first character, the root note, must be a letter A–G ; after that, you may use any of the following symbols:

Symbol	Description	What to type
♯	sharp	pound sign (#)
♭	flat	B
-	minor sign	hyphen (-)
°	diminished symbol	Shift-Option-8
ø	half diminished symbol	Option-O
Δ	major 7th triangle	Option-J
6/9	6/9 chord suffix	6/9
/	diagonal slash for hybrid chord, inversion, or altered bass	slash (/)
—	horizontal slash for a poly chord	underline (_)
	any other text	the text itself

For chord suffixes, type the opening character, the desired suffix, then the closing character. Use these opening and closing characters:

Symbol	Description	What to type
( )	stacked suffix with parentheses	Left parenthesis, Right parenthesis
{ }	stacked suffix with braces	Left Braces ({), Right Braces (})
[ ]	stacked suffix with brackets	Left Bracket ([ ), Right Bracket ( ])
	stacked suffix with no braces or brackets	Option-Backslash («), Shift-Option-Backslash (»)

For example, to create this chord symbol:

C7(♯9 ♭13)

…type "C7(#9b13)".

After typing a chord symbol, press Enter or Return to confirm.

To enter additional chord symbols, press Tab or Shift-Tab to advance to the next/previous metric position in the measure (as determined by the "Tab key advances" preference explained below) or Option-Tab or Shift-Option-Tab to jump to the next/previous measure. If a chord symbol already exists at or before the next position that you will Tab or Shift-Tab to, the chord symbol will be pop-edited for editing.

Transposing chord symbols

Chord Symbols are transposable along with other MIDI data. Select the desired chord symbols, with or without a MIDI note selection, and choose *Region menu > Transpose*. Select the "Transpose chord symbols" checkbox, choose the desired transpose options, and Apply.

Chord symbols in the Event List

Chord symbols are also displayed in the Event List. This is for display purposes only — chord symbols cannot be edited in the Event List. To edit chord symbols, use the QuickScribe Editor.

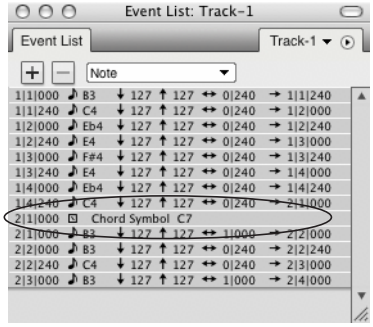

Figure 55: Chord symbol in the Event List

Hiding chord symbols

To temporarily hide chord symbols, deselect "Chord Symbols" in the View Filter (Setup menu).

Chord symbols preferences

The Preferences window (Digital Performer menu) has a Chord Symbols pane to specify the default text style and tabbing behavior.

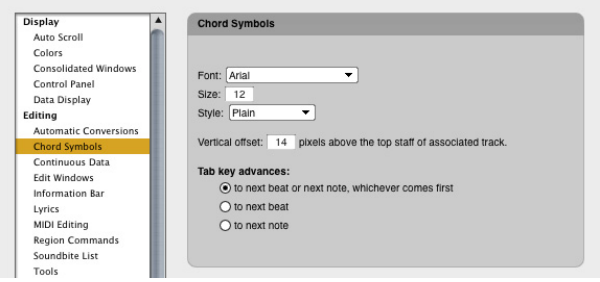

Figure 56: Chord symbol preferences

Text style

These options specify the default font, size, style, and vertical positioning of chord symbols.

Tab key advances

The options for Tab are to advance in one of three ways:

- To the next beat or the next note, whichever comes first
- To the next beat
- To the next note

Setting preferences from existing chord symbol

The Commands window (Setup menu) includes a *Use Chord Symbol Settings as Prefs* command. If you select a chord symbol and invoke this command, the font, size, style and vertical offset settings for the selected chord symbol are copied into the Chord Symbol preferences for use by all new chord symbols.

☛ This command is available only when you have a single chord symbol selected.

Setting preferences on-the-fly

Hold down the Control key while dragging a chord symbol to set the resulting vertical offset of the chord symbol in the Chord Symbol preferences, which will be used by all new chord symbols.

QUICKSCRIBE: OTHER ENHANCEMENTS

Various enhancements have been made to operations in the QuickScribe Editor:

- All page text, including chord symbols, can now be horizontally or vertically constrained while dragging by holding the Shift key.
- You can now use the arrow keys to nudge all selected page text up, down, left, or right.
- You can now select multiple page text objects and drag, nudge, or delete them all at once, or change their text attributes using the Text menu.
- The Text menu now puts a checkmark next to an attribute only if all selected page text objects have that same setting. For example, if one selected page text object is 10 pt and another 12 pt, nothing will be checked in the *Text menu > Size* submenu.
- You can now associate a page text object with more than one track so that it will appear on the QuickScribe page when any of its associated tracks are visible. The track association is controlled by a submenu of track choices under *Text menu > Display > On These Parts Only*, where you can choose as many tracks as you wish.
- Dynamics Symbols now have a separate option in the View Filter, so they no longer disappear when you filter out System exclusive (SysEx) data.
- The View Filter now has options for *Normal*, *Display-only* and *Playback-only* notes. These View Filter options make it possible to edit Display-only and Playback-only notes in other edit windows besides the QuickScribe Editor, such as the Graphic Editor and Event List.

■ The Measure Spacing dialog now updates the QuickScribe page in realtime as you drag the slider.

MERGE SOUNDBITES ENHANCEMENT

When there is a time range selection that extends beyond the selected soundbite(s), the *Merge Soundbites* command (Audio menu) now extends the beginning and end of the resulting soundbite to the entire selection range.

IMPROVED PHRASE PARSING IN TRACKS OVERVIEW

Phrase parsing in the Tracks Overview has been improved. In most cases Digital Performer will automatically and intelligently creates phrases of data of the most appropriate length, but phrase parsing can be further customized with a new setting in the Tracks Overview preference: *Break phrases longer than _ measures into _ measure phrases*.

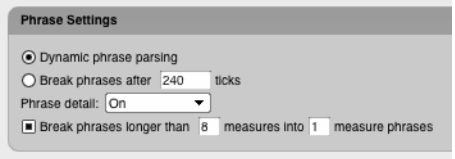

Figure 57: Phrase Settings preferences

This setting is used to optionally break long phrases into smaller phrases. You can specify one to eight measures for either field in this setting.

MARKER COUNTER

Figure 58: The Markers counter

The *Markers* counter type displays the most recent marker in the counter. This counter type can be used in either counter in the Control Panel, or the Counter window.

The Markers counter can also be used to locate to a marker. Click on the marker name to pop-edit the field and display a drop-down menu, then choose a marker by clicking on it or pressing Return or Enter to choose the highlighted marker.

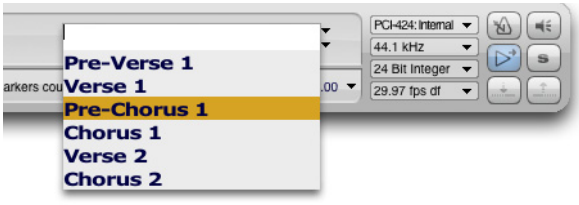

Figure 59: The Markers counter, pop-edited

You can also type in the pop-edited field. As you type, the drop-down menu will narrow the list to show only the markers containing the character(s) that you've typed. In the example shown in Figure 59, typing "ver" would narrow the list to Pre-Verse 1, Verse 1, and Verse 2, while typing "2" would narrow the list to Verse 2 and Chorus 2. The up/down arrow keys can be used to navigate the list.

RESIZABLE COUNTER WINDOW

The Counter window (Studio menu) is now freely resizable, and the text size scales along with the window size. At larger sizes, the Counter window is easily visible from across the studio or across the stage.

COPY & PASTE COUNTER VALUES

Counter values can now be copied and pasted to easily move time values from one field to another. This works in nearly any field where a counter value is displayed: the main counter, aux counter, Information Bar, and so on.

1. Click in any counter field so that it becomes pop-edited.
2. Press Command-C or choose *Edit menu* > *Copy*.
3. Click in the main or aux counter field to highlight it.
4. Press Command-V or choose *Edit menu* > *Paste*.

COUNTER ROUND ON ENTRY

By default, the Counter's "Round on Entry" option, found under the Time Format menu (Figure 60), is enabled and edits to larger time fields will clear smaller time fields. When the "Round on Entry" is disabled, smaller time fields are preserved when editing larger fields.

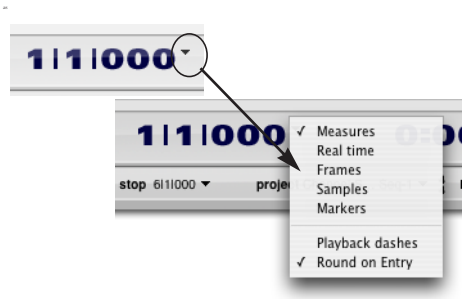

Figure 60: The "Round on Entry" option

For example, locate to 3|2|017, then select the counter's bars field and drag it upward. With "Round on Entry" enabled, the counter value will become 4|1|000, 5|1|000, 6|1|000, and so on.; with "Round on Entry" disabled, the counter value will become 4|2|017, 5|2|017, 6|2|017, and so on.

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